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CERTAIN EARTHWORKS OF EASTERN MASSACHUSETTS

By CHARLES C. WILLOUGHBY

MOST of the earthworks of the New England Indians have been partially or wholly obliterated by the continued cultivation of the land for nearly three hundred years. It is only in the woodlands and waste places that we may hope to find these remains in a fair state of preservation. They usually consist of embankments and trenches, the former about 12 to 30

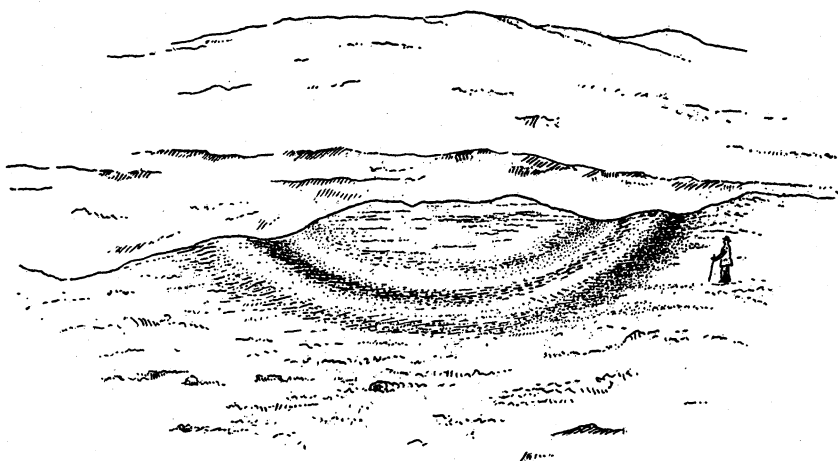


FIG. 84.—Marblehead: Portion of a circular embankment and trench. In quarrying stone the hill has been partially cut away and the greater part of the earthwork destroyed. The enclosed area was 50 feet in diameter, measuring from center to center of the embankment.

inches in height, and the latter of corresponding depth. There is commonly but one trench; sometimes, however, a trench appears upon either side of the embankment. The usual height from the bottom of the trench to the top of the embankment is 2 to 4 feet, and the distance from the outer edge of the trench to the opposite edge of the embankment averages about 13 feet. The embankments were doubtless originally somewhat higher and the trenches deeper. Their combined measurements were probably about the

breast height of an average man. Most of these formerly enclosed areas of various extent which were doubtless village or house sites. A few years ago the circular earthwork near Marblehead, a segment of which is shown in figure 84, was in a good state of preservation, but in quarrying stone a part of the hill was cut away and the greater portion of the work destroyed. This earthwork is mentioned in a deed of 1658 as "the Indian fort." It was originally about 50 feet in diameter and probably enclosed a single large house. The embankment undoubtedly supported palisades 10 to 12 feet high made of the trunks of small trees, the structure being similar to certain small fortified strongholds mentioned by the early colonists.

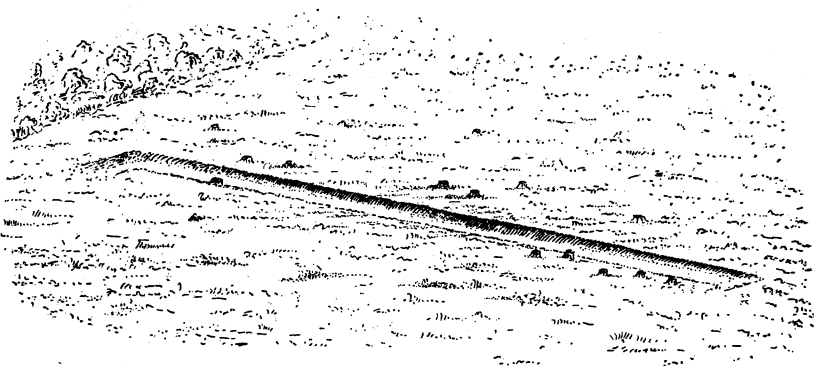


FIG. 85.—Andover: Remains of a square enclosure near Haggett's Pond. The embankment and trench forming the eastern side are well preserved, and are 216 feet in length; the other portions have been destroyed by cultivation.

A single large house was sometimes built within a square or oblong enclosure like the one seen by Champlain at Saco, Maine, but this type of enclosure seems usually to have contained several cabins. Near Haggett's Pond, in the town of Andover,¹ are the remains of what was probably a square enclosure, but one side and two corners of which can now be traced (fig. 85). These lay within the edge of a wood, and, although the trees have been cut off, the ground has not been disturbed at this point. The other portions of the embankment and trench have evidently been obliterated by cultivation. This was an ideal location for a village. The site occupies

¹ The first notice of this earthwork is on page 153, *Bulletin III* of the Department of Archaeology, Phillips Academy, Andover, Mass.

nearly the entire width of a level highland. A few feet to the north is a declivity 15 or 20 feet deep, at the bottom of which is a brook connecting with the lake. It is probable that in former times canoes were brought to within a hundred feet of the stockade.

Besides the circular and square enclosures, there were evidently extensive areas of irregular form, sometimes subdivided into sections, the direction of the stockade being determined by the contour and character of the land enclosed. The most extensive and best preserved earthwork of this type known to the writer lies in the town of Millis, about twenty miles south of Boston. It is situated on the shore of South End Pond,

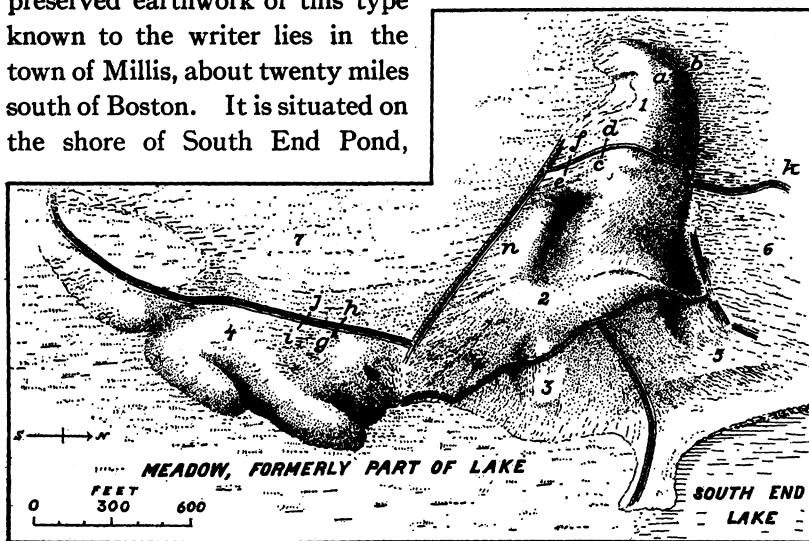


FIG. 86.—Millis: Embankments and trenches enclosing upland, western shore of South End Pond. The amount of land in areas 1-5 is approximately 31 acres.

an expansion of Boggestow Brook which flows into the Charles River. The general character of the earthwork, and the contour of the land enclosed is shown in figure 86. The hills which make up a greater portion of the enclosed areas are covered with trees and the land has never been cultivated. The greater part of the land bordering the hills has been under cultivation for many years and it is quite certain that portions of the embankments have been levelled and the corresponding trenches filled. About 6,000 feet, or approximately $1 \frac{1}{7}$ miles of embankments remain. The combined length of areas 1 and 2 is nearly

2,100 feet, and the amount of land in areas 1, 2, 3, 4, and 5 is approximately 31 acres. This land consists of glacial hills of irregular outline, with steep banks and deep gullies. Some of the depressions would form a good protection from the winter winds. The embankment and trench which undoubtedly enclosed the western end and the greater portion of the southern side of area 1 have been destroyed, probably by cultivation. An extensive meadow borders the eastern edge of areas 3 and 4, and it is very probable that when the earthwork was built the waters of the lake covered at least a portion of this meadow. Area 5 is the only one now bordered by water. The land at 6 is of medium height and

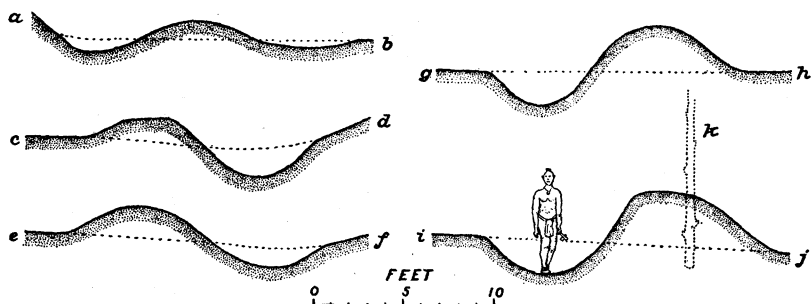


FIG. 87.—Millis: Cross-sections of embankments and trenches at points indicated in fig. 86; *k*, probable position of palisades.

the embankment at *k* probably continued toward the water and enclosed this section. It is somewhat doubtful if the land at 7 was enclosed, although the turning of the southern extension of the embankment toward the west indicates that it may have been. The land here is fairly low and level and is under cultivation.

It will be noted that the trenches are on the inner side of the embankments only, with the exception of the northern side of area 1, where a ditch may be traced on either side for nearly two hundred feet. In the neighborhood of these works, but beyond the limits of the sketch (fig. 86), are a few indications of walls and ditches which may have formed parts of this stronghold.

From the accompanying photographs and drawings of the embankments and trenches (figs. 86-90), a good idea may be had of

the present appearance of these remains. It seems probable that the embankments supported palisades, and that within the enclosures thus formed were many bark- or mat-covered houses. Apparently these works formed one of the most extensive Indian strongholds thus far known in New England.

The existence of the earthworks at Millis has been known to local archeologists for several years. They were visited by Professor Putnam, who made a sketch-plan in 1887; a survey was made under the auspices of the Peabody Museum, by A. D. Wyman in 1903;

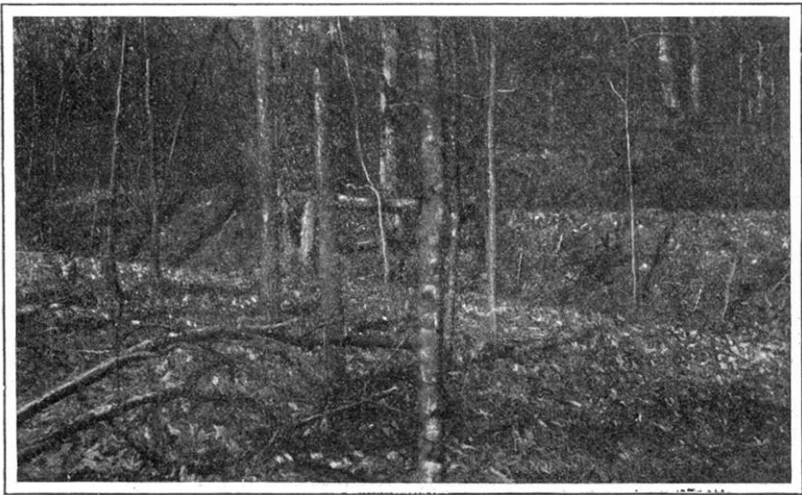


FIG. 88.—Millis: Southern portion of embankment and trench over hill between areas 1 and 2, below *e-f*, fig. 86, looking east.

and a model which forms the basis of figure 86 was prepared by the writer in 1909.

Sections of other embankments of a character similar to those described above have been brought to the writer's attention from time to time, some of which are undoubtedly portions of Indian strongholds; but generally not enough remains to give a comprehensive idea of the form and extent of the enclosures. Mr Warren K. Moorehead, of the Phillips Academy Museum of Andover, has recently called attention to several earthworks in that town.

Portions of these have been obliterated by cultivation, but enough remains to show some of them to have been extensive.¹

During the early colonial period there were numerous fortified enclosures or Indian forts in various sections of New England. The later ones were abandoned at or about the time of Philip's war. Roger Williams says that "with friendly joyning"² the Indians built their forts; that is, the men of a community and their friends took part in the work, which was probably accompanied by feasts and dances. The historic stockades were usually circular



FIG. 89.—Millis: Embankment and trench at southern side of area 2, looking southeast from *n*, fig. 86.

or square and enclosed areas about 50 feet in diameter to about 4 acres in extent. The more important references to historic Indian fortifications in New England follow, and, while the descriptions fail to give many desirable details, they furnish a good general idea of these strongholds, which were similar to the forts of the Algonquians of Virginia and the Middle States figured by John White and by Van der Donck.

¹ Since the above was written, the Department of Archaeology of Phillips Academy, Andover, Massachusetts, has issued *Bulletin V*, which consists of a well illustrated paper by Mr. Moorehead describing these earthworks.

² Roger Williams, *Key into the Language of America*, *Rhode Island Hist. Soc. Coll.*, vol. 1, p. 92.

The first account is by Champlain and refers to a fort on the right bank of the Saco River near its mouth. He figures a square enclosure containing a single house.¹

"The savages dwell permanently in this place and have a large cabin surrounded by palisades made of rather large trees placed by the side of each other in which they take refuge when their enemies make war upon them."

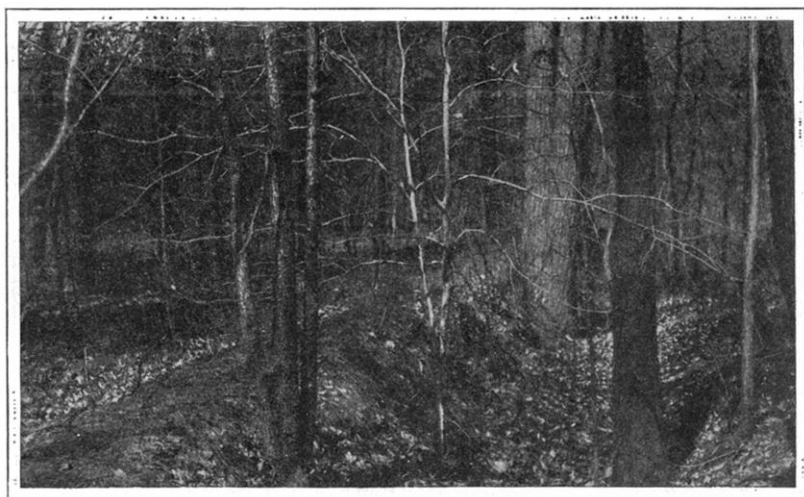


FIG. 90.—Millis: Embankment and trench at western side of area 4, looking north from near g-h, fig. 86.

The first fortifications seen by the Pilgrims were at Cape Cod. The remains of an old fort or palisade was found near the mouth of Pamet River, at Truro,² which they attributed to Christians, being without knowledge of Indian works of this nature. Farther south on the cape, below Wellsfleet bay, what appears to have been a second fort was encountered. This had evidently been abandoned at the time of the epidemic which prevailed in eastern Massachusetts a few years previous to the arrival of the Pilgrims. The dead were buried both within and without the enclosure. Within the enclosure were frames of houses, the coverings of which had been

¹ Champlain, *Voyages* (Prince Society), vol. II, p. 67.

² Mourt's *Relation* (Dexter edition), p. 22.

removed and carried away. The Pilgrims naturally mistook this for a palisaded cemetery, and thus described it:¹

"We found a great burying place, one part whereof was encompassed with a large Palazado, like a Church-yard, with yong spires foure or five yards long, set as close one by another as they could two or three foot in the ground, within it was full of Graves, some bigger, and some lesse, some were also paled about, & others had like an Indian house made over them, but not matted: those Graves were more sumptuous than those at Corne-hill, yet we digged none of them up, but onely viewed them, and went our way; without the Palazado were graves also, but not so costly."

The following autumn the Pilgrims discovered two small forts near the present site of Boston. These are described as follows:²

"Not farre from hence in a bottome, wee came to a Fort built by their deceased King, the manner thus; There were pools some thirtie or fortie foote long, stucke in the ground as thicke as they could be set one by another, and with these they inclosed a ring some forty or fifty foote over. A trench breast high was digged on each side; one way there was to goe into it with a bridge; in the midst of this Pallizado stood the frame of an house, wherein being dead he laid buried. About a myle from hence, we came to such another, but seated on the top of an hill: here *Nanepashemet* was killed, none dwelling in it since the time of his death."

The height of the palisades as given above, 30 or 40 feet, is probably too great. The trench, "breast heigh," measuring probably from its bottom to the top of the embankment which supported the palisades, corresponds very closely to those shown in figures 87-90.

Wood writes:

"These Forts some be fortie or fiftie foote square, erected of young timber trees, ten or twelve foote high, rammed into the ground, with undermining within, the earth being cast up for their shelter against the dischargements of there enemies, having loopeholes to send out their winged messengers."³

Vincent's account⁴ is drawn largely from Wood's, but, as he

¹ Ibid., p. 49.

² Ibid., pp. 127-128.

³ William Wood, *New England's Prospect*, Boynton edition, p. 89.

⁴ Vincent's narrative in Orr's *History of the Pequot War*, p. 105.

was one of the party that attacked the Pequot fort near Mystic, Connecticut, to which he has reference, his account is of value as it supplements that of Wood:

"They choose a piece of ground, dry and of the best advantage; forty or fifty foot square (but this was at least two acres of ground). Here they pitch, close together as they can young trees and half trees as thick as a man's thigh or the calf of his leg. Ten or twelve feet high they are above the ground and within [the ground] rammed three foot deep with undermining, the earth being cast up for their better shelter against the enemy's dischargements. Betwixt these palisadoes are divers loopholes, through which they let fly their winged messengers. The door is for the most part entered sideways which they stop with bows and bushes as need requireth. The space therein is full of wigwams, wherein their wives and children live with them."

The palisades were set close together, but open spaces between logs not perfectly straight were unavoidable. These open spaces were probably used as loopholes. Underhill,¹ describing the same structure, says:

"This fort or palisado was well nigh an acre of ground which was surrounded with trees and half trees, set into the ground three feet deep, and fastened close one to another, as you may see more clearly described in the figure of it before the book."

The illustration referred to, which appears in Underhill's *News From America* (1638), was evidently made by a wood engraver from a rough ground plan. It is of little value except as showing the fort to have been circular, with two entrances, one upon either side, each formed by overlapping the ends of the stockade, leaving a passageway between them. This fort is said to have contained about 60 or 70 wigwams.

Gookin says that at Natick "there was a handsome large fort, of a round figure, palisaded with trees."² The fort at Penobscot was 70 feet long and 50 feet broad and within it were 23 wigwams.³ Philip's fort, the site of which is at South Kingston, Rhode Island,

¹ Underhill's narrative in Orr's *History of the Pequot War*, p. 78, note.

² Gookin's *Historical Collections, Mass. Hist. Coll.*, first series, vol. 1, p. 181.

³ Drake's *Indian Wars*, p. 325.

had "besides high palisades, an immense hedge of fallen trees of nearly a rod in thickness, surrounding it, encompassing an area of about five acres."¹ It is said to have contained about 500 wigwams. Another estimate gives the size of the enclosure at 3 to 4 acres.²

A few instances are recorded of the apparent use by Algonquians of a trench and embankment without palisades as a defensive work under circumstances which probably rendered the erection of a stockade unpracticable. Two traditions current in past years among the New England Indians are as follows: A party of Nipmuc entrenched themselves on the shore of Quinebaug River against the Narraganset, where they remained three days. Fifty years ago these earthworks were visible (De Forrest, *Indians of Connecticut*, p. 268). We are also told (Mass. Hist. Coll., 3d series, vol. VI, p. 197) that a company of Mohegan invaded Block Island and were driven to a bluff, where they "by some means dug a trench around them toward the land, to defend them against the arrows of their enemies." This earthwork was known locally as the Mohegan fort.

In all there are about twenty Indian forts mentioned by the early explorers and colonists of New England between the years 1605 and 1676, nearly all of which were in Massachusetts (including the province of Maine) and Connecticut. It seems evident from a study of the above accounts that the old earthworks described in this paper are the remains of Indian fortifications of the same general kind as those seen by the colonists. The one at Millis is of greater extent and its form is composite; the embankments and trenches, however, appear to be identical with historic examples.

The levelling by cultivation of portions of certain other earthworks in eastern Massachusetts, renders it difficult if not impossible to determine their original form. Some of them were extensive, and may have formed enclosures as great as the one at Millis.

With our present knowledge, there seems to be no good reason for attributing these remains to other than Algonquian origin.

¹ S. G. Drake, *Indians of North America*, fifteenth edition, pp. 218-219.

² *Ibid.*, p. 218.

That this people occupied the greater portion of New England for a long period seems certain, for they were probably the originators of most of the shell-heaps of our coast. With the exception of the Champlain watershed in Vermont, and possibly certain other small sections of western New England, the Iroquoian tribes do not seem to have occupied these states. There are indications, however, of the occupancy of eastern, and perhaps central, New England by a non-pottery-making people, possibly the Beothuk, but there seems to be no evidence that the Beothuk constructed fortified enclosures of the types known to have been common among the Algonquians, although they did build extensive deer fences with "half-moon breast works" at intervals.¹ There are, doubtless, many embankments of the types described above in various sections of New England that are known but locally, and it is hoped that this brief account may prove an incentive to further investigation as to the distribution and origin of this class of remains in these states.

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¹ Rev. George Patterson, *The Beothiks or Red Indians of Newfoundland*, *Trans. Roy. Soc. Canada*, Sec. II, 1891, p. 133.